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The vegetation of Switzerland

CHRIST's *Das Pflanzenleben der Schweiz* was published in 1879. A French translation of this work entitled *La flore de la Suisse et ses origines* appeared in 1907.³ An apology is due the author and publishers for the tardiness of this review. The translator is E. TIÈCHE, and the author has added a supplement in which he summarizes the geobotanical work that has been done since the publication of the first edition. As the original work has never been reviewed in the GAZETTE, a summary of its contents may be acceptable.

After a brief discussion of the fundamental principles of plant distribution, especially the influence of climate, and migrations, the vegetational regions of Switzerland are described in great detail. The primary divisions are naturally zonal in form, since the country is so largely mountainous. The author enumerates four zones: (1) the basal zone, having considerable likeness in its flora to the Mediterranean region, and largely under cultivation, with the grape as the characteristic culture plant; (2) the zone of deciduous forest, dominated in the south by the chestnut, in the north by the beech; (3) the zone of coniferous forest, composed of spruce, fir, larch, and Cembran pine; (4) the alpine region, to which a third of the discussion is devoted. Here particularly the author considers the problems of migration, tracing an important element among the alpine plants to the mountains of north-central Asia as their point of origin. The large endemic element of the alpine flora is also discussed at some length.

The work is characterized by minuteness of detail, possible because of the thoroughness with which the Alps have been explored and studied by botanists. Such a work is hardly yet possible in any portion of our country.

The supplement, which is a résumé of the work of recent students, adds nothing of general importance, but merely fills out details here and there. It would seem that in view of the great advance that has been made in the study of plant geography during the thirty years since the appearance of the first edition, a better plan would have been to rewrite the whole.—WILLIAM S. COOPER.

MINOR NOTICES

Local tree floras.—RAMALEY has published a thin volume⁴ whose really useful part consists of descriptions of the trees of Colorado, with analytic keys and a considerable number of illustrations. These will be helpful to those who wish to study the woody plants. This part is prefaced by an essay of some 30 pages on the "wild flowers" of the state, with many halftones of vegetation and scenery, and a number of good outline drawings. The title, *Wild flowers and trees of Colorado*, is thus literally justified, but practically it is misleading. We hoped from the announcement to see a popular flora embracing the commoner

³ CHRIST, H., *La flore de la Suisse et ses origines*. pp. xiv + 571 + 119. *pls. 4. maps 5.* Bâle-Geneva-Lyons: Georg & Cie. 1907.

⁴ RAMALEY, F., *Wild flowers and trees of Colorado*. 8vo. pp. vi + 78. *figs. 70.* Boulder, Colo.: A. A. Greenman. 1909.

plants of the state, after the fashion of some of the excellent books on the eastern flora. The demand for this sort of a book, we hope, will induce Dr. RAMALEY to prepare such a volume. The tourist travel alone would doubtless quickly absorb a reasonable edition.

MACKENSEN, a teacher in the San Antonio (Texas) High School, has published, as well as written, a handy a little pamphlets on "all the woody plants growing naturally within five or six miles of the center of the city of San Antonio." According to the author's investigations there are just one hundred such species, of which at least ten are introduced. This number of species is surprisingly large, but is due to the author's lax conception of woody plants, for we find included various vines, agave, and the cactuses, not to mention a herbaceous mallow described as "woody below." The descriptions are untechnical, and there are some interesting observations on certain species. The lack of a key will limit the usefulness of the pamphlet.—C. R. B.

Asiatic palms.—The present volume, a monographic presentation of the species of *Calamus*,⁶ records the results obtained by a careful specialist after years of study of living plants in their native habitat and the critical examination and comparison of dried specimens from the larger herbaria of the world. The subject-matter is arranged under ten headings, the first being an introductory essay of forty-five pages giving a detailed discussion of all parts of the plants entering in any way into their classification, the treatment of the genus by former authors, present limitations, especially with reference to *Daemonorops* and *Palmijuncus*, and finally the geographical distribution of species.

The author then introduces the taxonomy by giving a systematic conspectus of the species, arranged in sixteen groups, based primarily on the presence or absence of leaf-cirri, and further on the characters of the leaf sheaths and inflorescence; the conspectus is followed by a synopsis of the species (brief characterizations of the 201 recognized species); and lastly their enumeration with bibliography, detailed descriptions, and copious notes. With the exception of five species, known only from RUMPH's descriptions and figures, all of those treated in the text have been beautifully illustrated by natural-size phototype reproductions from the author's own negatives. A complete index to species and plates concludes the volume. The work is an important contribution to taxonomic literature.—J. M. GREENMAN.

A forcing process.—JOHANNSEN'S process of forcing plants by treatment with ether vapor has been of considerable service in the commercial production of unseasonable flowers. A much simpler and in every way more practicable

⁵ MACKENSEN, B., *The trees and shrubs of San Antonio and vicinity: a handbook of the woody plants growing naturally in and about San Antonio, Texas.* 12mo. paper. pp. 51. *pls. 12.* San Antonio: The author. 1909.

⁶ BECCARI, ODOARDO, *Asiatic palms—Lepidocaryeae. Part I. The species of Calamus.* *Ann. Roy. Bot. Gard. Calcutta* 11:1-518. *pls. 238.* 1908.